



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/IT97/00207 (22) International Filing Date: 8 August 1997 (08.08.97) (30) Priority Data: UD96A000156 9 August 1996 (09.08.96) IT (71)(72) Applicant and Inventor: MARANO, Fabrizio [IT/IT]; Via Treviso, 48/2, I-33100 Udine (IT). (74) Agent: BOSCHIN, Adriano; Studio Tecnico S.A.I. S.a.s., Via Imbriani, 2, I-34122 Trieste (IT).</p>		<p>(81) Designated States: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, FI, GE, HU, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>
<p>(54) Title: MULTIFUNCTION IMPROVED SPECTACLES</p> <div data-bbox="394 1163 1187 1644"> </div> <p>(57) Abstract</p> <p>This invention has as object a new kind of spectacles characterized by a multifunctionality. Such spectacles (1) have ear-parts (2) for the support and link at the ears ending with an ear-covering (3). One of the said ear-coverings (3) can include a micro receiving device for radio communications or a loudspeaker, whose accessories can eventually be integrated into the ear-coverings (3). At least one of the said ear-coverings (3) can include a microphone with different answers linked to a loudspeaker and/or sound amplifying means.</p>		

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## MULTIFUNCTION IMPROVED SPECTACLES

## Technical field

This invention has as object a new kind of spectacles characterized by a  
5 multifunctionality.

## Object of the innovation

The present invention has for object a new type of spectacles characterized  
by a multifunctionality.

10

## Prior art

In prior art traditional spectacles are known, which have substantially only one  
function that is of help and/or correction and/or protection and/or  
improvement of the eyesight.

15

## Purpose of the present innovation

The aim of this invention is to providing the spectacles with other useful  
functions.

## 20 Disclosure of the invention

This and other aims are reached as claimed by spectacles with respective  
ear-pieces for the support and/or fitting to the ears, characterized in that each  
of the said ear-pieces ends with an ear-covering.

## 25 Advantages of the invention

First of all in this way it is provided in the same time both for the ears and for  
the eyes.

Secondly they also have a more effective fitting to the head and are useful for  
those who have to wear spectacles with lens to correct eyesight and/or

30 devices to hear better.

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Advantageously the coverings may offer protection from noise or wind, being possibly used both by people who must or want to be protected against noise and by people who need or want a protection from wind (for example in windy areas) and also by people that move fastly (for example skiers, etc.).

- 5 Advantageously each ear-covering can integrate a micro receiving device for radio communications or even for broadcasting or a loudspeaker whose additional components may be integrated in the ear-pieces or in the same ear-coverings (one and/or the other).

As much advantageously said ear-coverings can integrate also a microphone  
10 with different answers in frequency linked to a loudspeaker and/or an amplifying system for example for people having a higher or lower deafness degree.

Said ear-coverings may be made in materials able to keep the ears of the user warm.

15

#### A Brief Description of the Drawings

These and other advantages will appear from the following description of a preferred embodiment solution, with the help of the enclosed drawings, whose details are not to be considered limitative but only supplied as an example.

- 20 Figures 1, 2, 3, are three respectively front, top and side views of a first form of embodiment of the spectacles, for examples for someone who is subjected to noise and needs at the same time also a protection for the eyes (for example if he/she is working at a circular saw).

Figures 4, 5, 6 are three respectively front, top and side views of a second  
25 form of embodiment of the spectacles, for example for someone who is using a rifle or a pistol or other fire-weapons.

Figures 7, 8, 9 are three respectively front, top and side views of a third form of embodiment of the spectacles, for example for someone who wants to listen to music and wants at the same time protection during fast movements.

- 30 Fig. 10 shows the spectacles of Figs. 1, 2, 3 worn by a respective user.

- 3 -

Fig. 11 shows the spectacles of Figs. 4, 5, 6 worn by a respective user  
Fig. 12 shows the spectacles of Figs. 7, 8, 9 worn by a respective user.

#### Description of a preferred embodiment

5 Referring to the Figures it is noticed that with 1 is indicated the visual screening part or lens with respective possible frame, with 2 the supporting ear-pieces and with 3 the ear-pieces end with ear-covering that can act as an ear-phone as for example in the solution of Figs. 7, 8, 9, 12.

The visual screening or lens may be both corrective and protective. The  
10 frame of the visual screening or of the lens builds a unique body with the ear-pieces 2; said support (frame-ear pieces) is elastic and makes that in resting position the ear-coverings 3 are pushed with a certain force against the ears of the user.

The ear-pieces 2 may penetrate more or less into the covering 3 allowing  
15 each user to regulate the distance between the frame and the ear-coverings.

The thickness of the visual screening or of the lens and their shape is functional to the use the spectacles are devoted to.

As mentioned the originality lies in the fact that the ear-pieces 2 of the spectacles end with the respective ear-covering 3 with or without electrical  
20 devices, which allow to receive and listen to sounds (coming from outside, from a radio, a CD player, etc.).

In case of a radio, the antennas can also be integrated in the ear-pieces 2.

It can also be provided only the receiver in the ear-covering while the transmitter (i.e. tape or CD player) could also be connected with the  
25 spectacles by cable by means of a device fixed to the waist as in known prior art.

In such case the system would be different from the known solutions because the spectacles are the covering holders.

Obviously as claimed, the spectacles with incorporated radio or radio in the  
30 form of spectacles with ear-coverings for the ears that include at least one

- 4 -

loudspeaker are integrant part of the innovation.

Similarly is for the ear-phones.

Similarly is for sound amplifying devices.

- 5 -

#### Claims

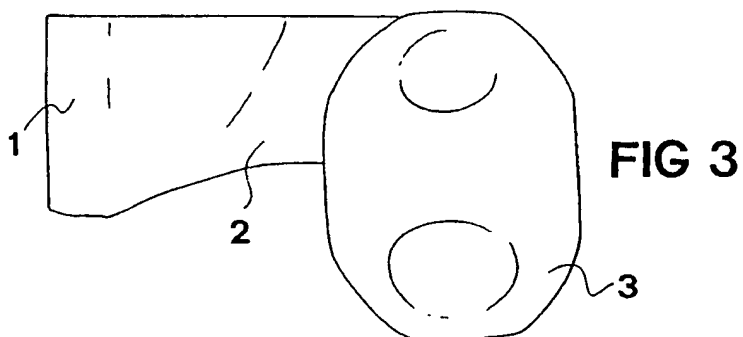
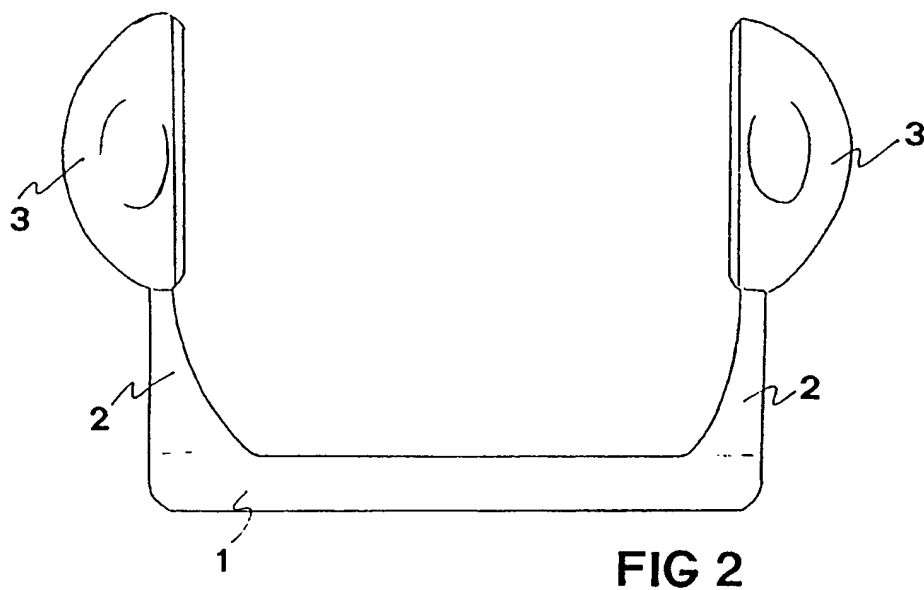
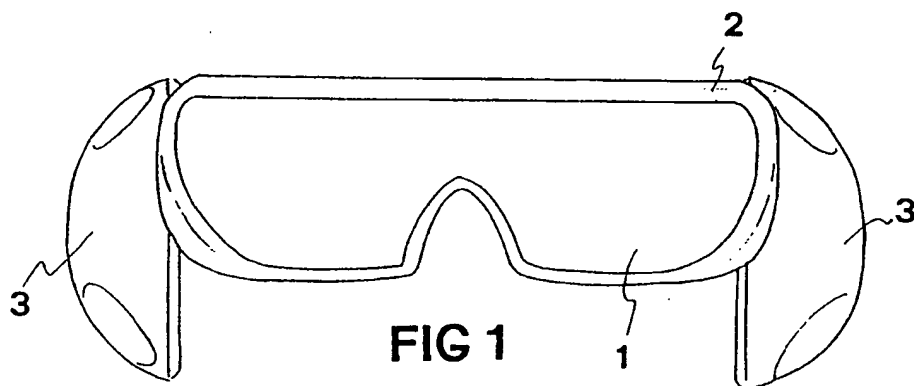
1. Perfected multifunctional spectacles with respective ear-pieces (2) for the support and/or fitting to the ears, characterized in that each of said ear-pieces (2) ends with an ear-covering (3).
- 5 2. Spectacles with ear coverings (3) integrated at the end of the respective ear-pieces (2) according to claim 1., characterized in that the frame of the visual screening or lens builds a unique body with the ear-parts (2); said support (frame-ear parts) is elastic and makes that in resting position the ear-covering (3) are pushed against the ears of the user.
- 10 3. Spectacles with ear-coverings (2) integrated at the end of the respective ear-pieces (2) according to claim 1., 2., characterized in that the ear pieces (2) can penetrate more or less into the ear-coverings (3).
4. Spectacles (1) with ear-coverings (3) integrated at the end of the respective ear-pieces (2) according to claims 1, 2, 3, characterized in that at least one of  
15 the said ear-coverings (3) includes a microreceiving device for broadcast or a loudspeaker, whose accessories can be integrated into the ear-pieces (2) or into the ear-coverings (3) (the one and/or the other).
5. Spectacles (1) with ear-coverings (3) integrated at the end of the respective ear-pieces (2) according to claims 1, 2, 3, characterized in that at least one of  
20 the said ear-covers (3) includes a microphone with different answers linked to a loudspeaker and/or sound amplifying means.
6. Radio in the form of spectacles (1) with ear-pieces (2) that ends with ear-coverings (3) acting as receiver or as loudspeaker according to claim 4; the antennas can also be integrated at the ear-pieces (2); said radio can also  
25 have the receiver in the ear-cover (3) while the transmitted part can be linked to the spectacles (1) through a wire from a device at the belt.
7. Tape player in the form of spectacles (1) with ear-pieces (2) that ends with ear-coverings (3) acting as receiver or as loudspeaker according to claim 4.
8. CD player in the form of spectacles (1) with ear-pieces (2) that ends with  
30 ear-coverings (3) acting as receiver or as loudspeaker according to claim 4.

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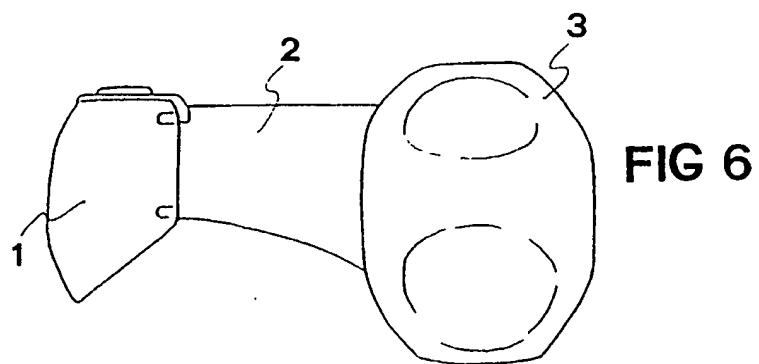
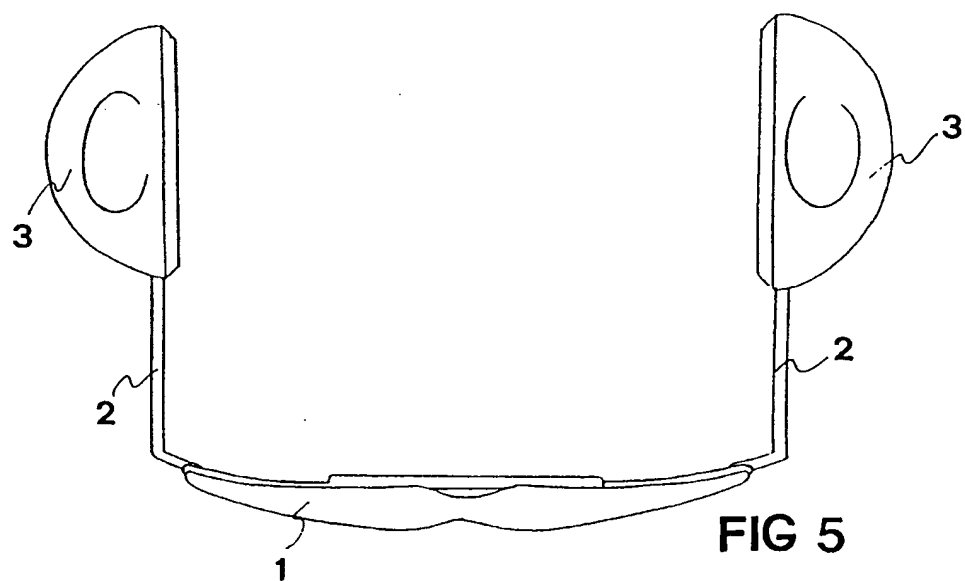
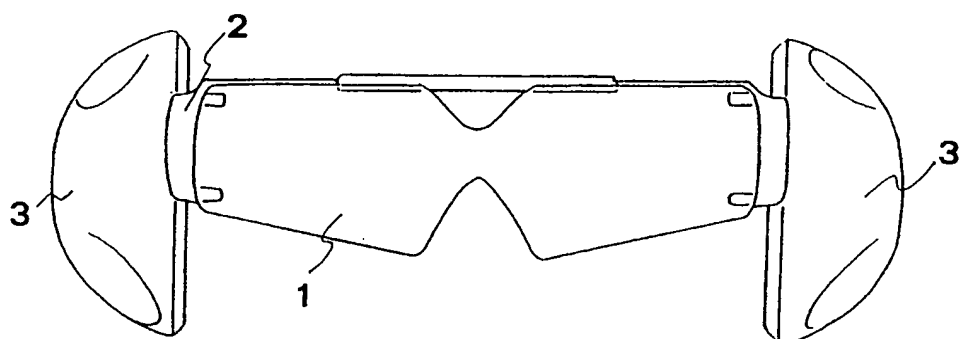
9. Ear-phone in the form of spectacles (1) with ear-pieces (2) that ends with ear-coverings (3) acting as receiver or as loudspeaker according to claim 4.
10. Sound amplifier in the form of spectacles (1) with ear-pieces (2) that ends with ear-coverings (3) acting as receiver or as amplifier according to claim 5.



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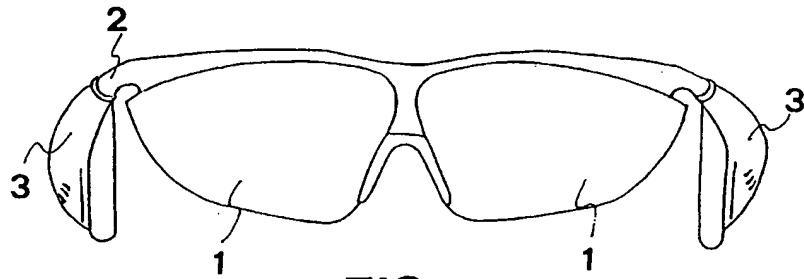


FIG 7

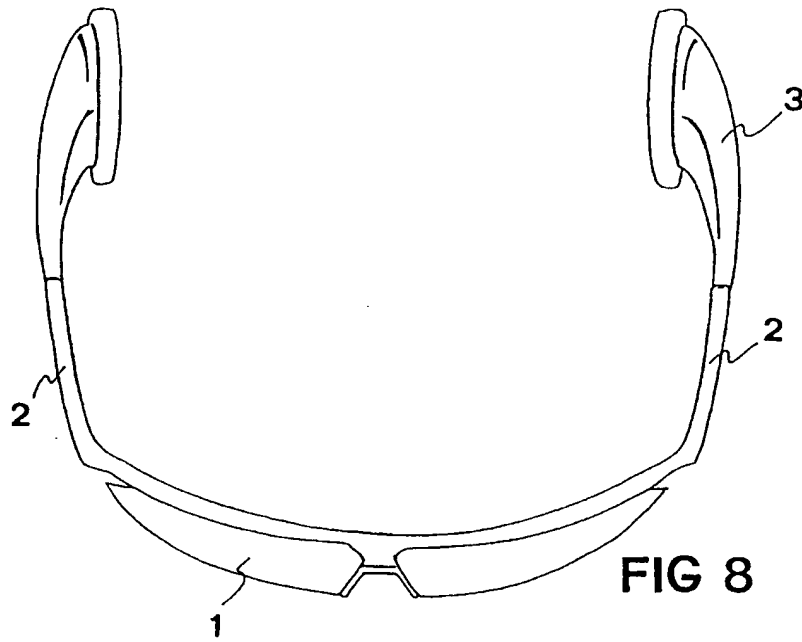


FIG 8

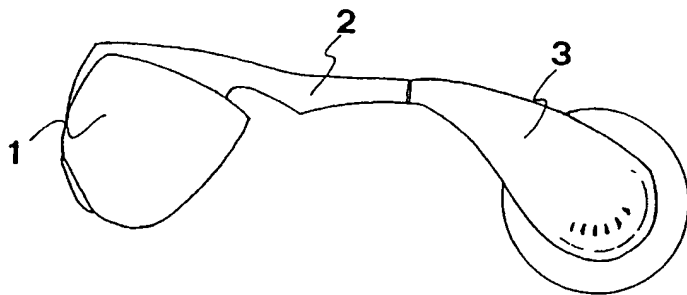
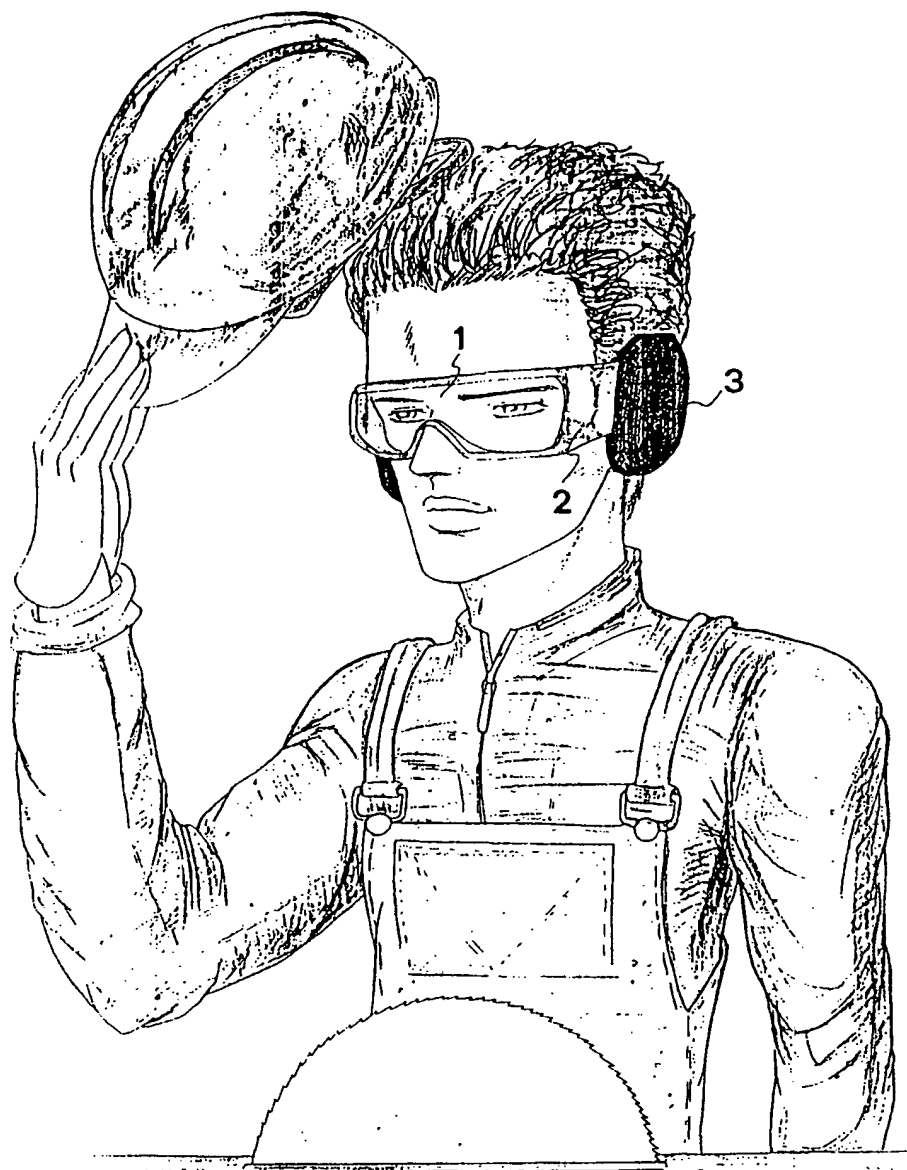


FIG 9

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FIG 10

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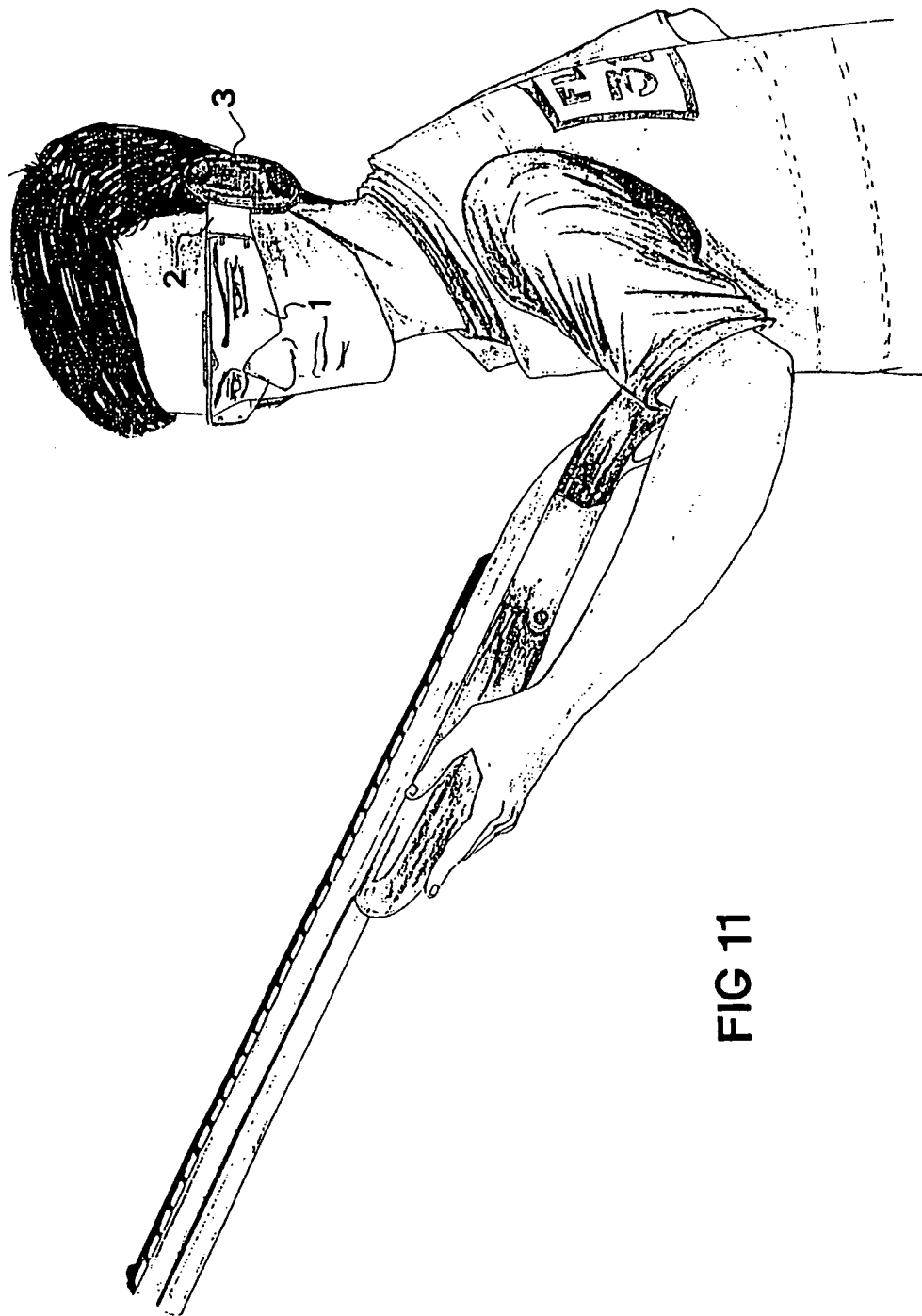


FIG 11

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FIG 12

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# INTERNATIONAL SEARCH REPORT

Inter. onal Application No  
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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 G02C11/06 A61F9/02

According to International Patent Classification(IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 G02C H04R A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 86 17 136 U (H.D. WEIDEMANN) 21 August 1986 see page 3 - page 5 ---	1,4-7,9
X	GB 2 209 923 A (A.E. SCOTT) 1 June 1989 see abstract ---	1-3
X	EP 0 353 930 A (HELLBERG INTERNATIONAL LTD) 7 February 1990 see abstract ---	1-3
A	CH 471 509 A (K. CECH) 30 May 1969 see column 5, line 55 - column 6, line 18 ---	1-10
A	US 4 856 086 A (MCCULLOUGH GENE) 8 August 1989 see column 2, line 6 - line 51 ---	1-10
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 579 238 A (BALLEIN BURKHARD) 19 January 1994 see column 1 ---	1-10
A	FR 2 636 144 A (BONATO ROBERT) 9 March 1990 ---	
A	US 4 882 769 A (GALLIMORE BRUCE A) 21 November 1989 -----	



# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 8617136 U	21-08-86	NONE	
GB 2209923 A	01-06-89	NONE	
EP 353930 A	07-02-90	AU 628362 B	17-09-92
		AU 3912889 A	08-02-90
		AU 625399 B	09-07-92
		AU 3912989 A	08-02-90
		DK 378789 A	03-02-90
		DK 378889 A	03-02-90
		EP 0353929 A	07-02-90
		GB 2227157 A,B	25-07-90
		GB 2221551 A,B	07-02-90
		JP 2084956 A	26-03-90
		JP 2087113 A	28-03-90
		US 5069541 A	03-12-91
		US 5133596 A	28-07-92
CH 471509 A	15-04-69	BE 717614 A	16-12-68
		DE 1762538 A	20-08-70
		FR 1572808 A	27-06-69
		GB 1218086 A	06-01-71
		NL 6809511 A	07-01-69
US 4856086 A	08-08-89	NONE	
EP 0579238 A	19-01-94	DE 4223515 C	24-02-94
		US 5579400 A	26-11-96
FR 2636144 A	09-03-90	NONE	
US 4882769 A	21-11-89	NONE	